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 RECIPIENT NAME RECIPIENT AFFILIATION
 EISENHUT, D.G. Division of Licensing

SUBJECT: Forwards summary of NRC Seismic Qualification Review Team & Pump Valve Operability Review Team 820511-14, audits, including agenda, findings & equipment status. Outstanding info will be provided by 820615.

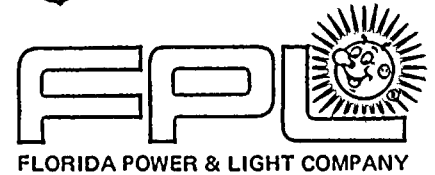
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Pl.



May 24, 1982
L-82-219

Office of Nuclear Reactor Regulations
Attention: Mr. Darrell G. Eisenhut, Director
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Eisenhut:

Re: St. Lucie Unit No. 2
Docket No. 50-389
Minutes of SQRT and PVORT Audit

From May 11 to 14, 1982 the NRC Equipment Qualification Branch, Seismic Qualification Review Team (SQRT) and Pump and Valve Operability Review Team (PVORT) visited the St. Lucie Unit No. 2 Site in order to conduct an audit of the Florida Power and Light program in these areas. Attachment 1 presents the agenda for the 4 day meeting including the equipment which was audited. The audit was conducted by 3 SQRT teams and 2 PVORT teams.

Attachment 2 presents the NRC comments regarding each piece of equipment audited and its status. Regarding the open items, FPL commits to submit outstanding information on all issues by June 15, 1982 or as marked in attachment 2.

Please contact us with your comments at your convenience.

Very truly yours,

Robert E. Uhrig
Vice President
Advances Systems and Technolgy

REU/RAK/lej

Attachment

cc: J. P. O'Reilly, Region II
Harold F. Reis, Esquire

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FLORIDA POWER & LIGHT COMPANY
 ST. LUCIE PROJECT UNIT NO. 2
SQRT & PVORT SITE AUDIT
 ATTACHMENT 1
AGENDA (5/11/82 - 5/14/82)

SQRT

	5/11/82	5/12/82	5/13/82
Team "A"	1. MSIV I-HCV-08-1B 2. Valve I-Mv-08-14 3. AFW Pump (Motor) (Trestle)	4. CK Valve - I-V-7172 (RAB Pen. EL. 9') 5. ICW Pump 6. Rotameter - FIS-21-3A-1 (Intake Structure)	7. 4.16 Kv Switchgear - 2A-3 8. 45 Kva Transformer - PP-201 (RAB EL. 43')
Team "B"	1. Valve FCV-3301 2. Valve V-3517 3. Valve V-3495 (RAB-0.5')	4. HPSI Pump/Motor 5. LPSI Pump/Motor (ECCS) 6. Valve LCV-2110P (RAB EL. 19.5")	7. TE-14-3A (CCW Bldg.) 8. Hot Shutdown and Control Transfer panels (RAB EL. 43') 9. Battery Racks
Team "C"	1. Gravity Damper GD-7 2. Limit Switch - ZS-25-24 (RAB EL. 62') 3. Transmitter - PT-1107	4. Recorder 5. Signal Characterizer 6. RPS Cabinet (Control Room)	7. Contact Output Isolator 8. Multi-Nest Power Supply 9. Distribution Module (Control Room)

PVORT

Team "X"	1. Valve - I-MV-08-12 (Trestle) 2. ICW Pump (Intake Structure)	3. MSIV I-HCV-08 - 1B 4. AFW Pump (Motor) (Trestle)	5. Valve I-V-7172 (RAB Pen EL. 9') 6. Valve I-FCV-07-1A (RAB Pen EL. 28')
Team "Y"	1. Valve FCV-3301 2. Valve V-2650 (RAB - 0.5')	3. HPSI Pump/Motor (ECCS Room) 4. Valve - V-3517 (RAB - 0.5')	5. Valve HCV-3648 (RCB EL. 45')

5/14/82

- Exit Meeting

5/14/82

SQR T AND PVORT AUDIT
FINDINGS AND STATUS
ATTACHMENT 2

1

ITEM	DESCRIPTION OF COMMENTS	STATUS
<u>SQR T</u> <u>5/11/82</u> <u>TEAM A</u>		
1) MSIV-I- HCV-08-1B	Neither airline or bypass line has supports.	This item closed by FPL letter indicating that supports will be installed. FPL to supply verification of support installation. Admin. follow-up item. Airline restraint design by 6/1/82; installation by 7/15/82. Bypass line restraint design by 7/23/82; installation by 8/31/82.
2) Valve I-MV-08-14	Piping where ADV Valve is mounted is missing supports. NRC notified prior to audit.	FPL to verify installation of support. Administrative followup item.
3) Pump AFW Pump (Motor) (Trestle)	No Comments	Closed

SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<u>SQRT</u> <u>5/11/82</u> <u>TEAM B</u>		
1) Valve FCV-3301	1. FPL to supply bending stress information. Bending stress is near allowable. Concern is about conservatism of analysis. 2. FPL to supply pin stresses.	1. Closed 2. Open
2) Valve V-3517	1. Provide additional SQRT form data 2. Provide FEAAS6 computer code verification	1. Closed 2. Follow up
3) Valve V-3495	Conduit spacing is of concern,. (Within 5 inches of wall - concern is defferential movement between wall and valve)	Closed FCR supplied to NRC

SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<p><u>SQRT</u> <u>5/11/82</u> <u>TEAM C</u></p>		
<p>1) Gravity Damper GD-7</p>	<p>Model No. specified in Spec. is incorrect</p>	<p>Revised Spec. with correct model No. supplied to NRC 5/13/82. Item Closed</p>
<p>2) Limit Switch 2S-25-24</p>	<p>1. Model No. in report not in exact agreement with installed model/drawing. 2. Single frequency input concern 3. Test mounting details not in report</p>	<p>1. FPL provided TWX clarifying that report covers model installed. Item closed 2. Closed. 3. Closed</p>
<p>3) Transmitter PT-1107</p>	<p>1. Spacing between tubing and transmitter of concern. 2. Concern that there does not appear to be a correlation between test data and specification</p>	<p>1. Technical follow-up. Acceptability to be verified by 6/4/82. 2. Closed</p>

SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<u>PVORT</u> 5/11/82 <u>TEAM X</u>		
1. Valve I-MV-08-12	Concern on full stroking of valve to demonstrate operability with full delta P	Closed by Start-Up Discussion of Test Procedure
2. Pump ICW	No Comments Note: SQRT Team is reviewing deflection calculations. Operability review may depend on results of that review.	Closed

SQR AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<p><u>PVORT</u> <u>5/11/82</u> <u>TEAM Y</u></p>		
<p>1) Valve FCV-3301</p>	<ol style="list-style-type: none"> 1. Concern about maintenance program for this valve 2. Account for flow induced vibration over life of valve 3. Hydro test & leakage data not available 	<ol style="list-style-type: none"> 1. Closed by GEMS description 2. Open 3. Open
<p>2) Valve V-2650</p>	<ol style="list-style-type: none"> 1. Hydro test & leakage data not available 2. Need explanation of Preop testing to be performed on this valve (closing against full delta P needed) 3. Provide verbal confirmation of full flow test on 5/13/82 	<ol style="list-style-type: none"> 1. Open 2. Confirm that valve is part of periodic safeguards tes 3. Closed

SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<u>SQRT</u> <u>5/12/82</u> <u>TEAM A</u>		
1. Valve I-V-7172. Check	Nearby horizontal pipe supports missing. Verify when completed.	Closed, pipe supports installed.
2. Pump ICW	Qual. Report problems. NRC disagrees with methodology in report. Relative displacement between impeller and casing in question.	Open. FPL provided letter from Byron Jackson explaining method of calculation and effect of casing/impeller interference. FPL to provide clarification on "casing/impeller interference".
3. Rotameter FIS-21- 3A-1	No Comments	Closed

SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<u>SQRT</u> <u>5/12/82</u> <u>TEAM B</u>	Note: HPSI comments deferred to 5/13/82.	
1. Pump LPSI Pump/Motor	1. Additional information needed for Motor Qualification Report sections G, H, I, J 2. Provide computer code verification for ASME code equation for flanges and also ME 9032.	1. Open 2. Follow up
2. Valve LCV-2110P	Provide computer code verification for Wang computer code 2200 A/B	Follow up

SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<p><u>SQRT</u> <u>5/12/82</u> <u>TEAM C</u></p>		
<p>1. Recorder</p>	<p>Need the required response spectrum for the location on the main control board on which recorder is installed, to compare with test response spectrum.</p>	<p>Information will be available in June '82 when it will be submitted to NRC. Item is Open.</p>
<p>2. Signal Characterizer</p>	<p>No problem with this piece of equipment, however, Foxboro cabinet in which characterizer is installed does not have I.D. tag.</p>	<p>Provide confirmation of I.D. tag installation.</p>
<p>3. RPS Cabinet</p>	<ol style="list-style-type: none"> 1. No I.D. Plate on cabinet 2. Operability proof for cabinet is not in the report. 3. The cabinet in the field is the actual one tested. Provide details on cabinet and devise reconditioning. 	<ol style="list-style-type: none"> 1. Closed 2. Open 3. Open

SORT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<u>PVORT</u> <u>5/12/82</u> <u>TEAM X</u>		
1. Valve MSIV-I- HCV-08-1B	This valve is not tested under full flow conditions. This is a concern.	1. The NRC will consider information provided during the audit. 2. FP&L should continue pursuing additional type testing or model testing which may be available.
2. Pump AFW	Tag on water supply to pump seal says to fill with oil.	This has been corrected 5/13/82 Closed

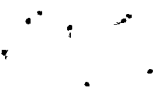
SQRT AND PVORT AUDIT
FINDINGS AND STATUS

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ITEM	DESCRIPTION OF COMMENTS	STATUS
<u>PVORT</u> <u>5/12/82</u> <u>TEAM Y</u>		
1. Pump HPSI	1. Incorrect Model No. on PVORT form . Correct No. is 5K 8110 52C57. Verify other records are correct. Correct PVORT form. 2. Coupling cover not secured to floor.	1. Closed 2. Coupling being adjusted. Will be secured once work is complete. Verify by letter.
2. Valve V-3517	Valve tag unsecured	Closed Tag secured

SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<p><u>SQRT</u> <u>5/13/82</u> <u>TEAM A</u></p>		
<p>1. Switchgear 4.16 KV-2A3</p>	<p>1. Justify that welded mounting is at least as strong as tested bolted mounting. As an action item, an additional fourth plug weld should be made.</p> <p>2. Loose transformer in switchgear cabinet should be reattached and a sampling made to establish that other transformers are not loose.</p>	<p>1. Technical follow-up. By June 1, 1982 FPL will provide justification and corrective action if necessary.</p> <p>2. Follow-Up. FPL will provide procedure for QC review of transformer mounting and results of inspection.</p>
<p>2. Transformer 45 KVA PP-201</p>	<p>1. Mounting in field is different from test; however, field mount is stronger</p> <p>2. No model number on this piece of equipment, serial number only. Clarify.</p>	<p>1. Closed</p> <p>2. Confirmatory</p>



SQRT AND PVORT AUDIT
FINDINGS AND STATUS

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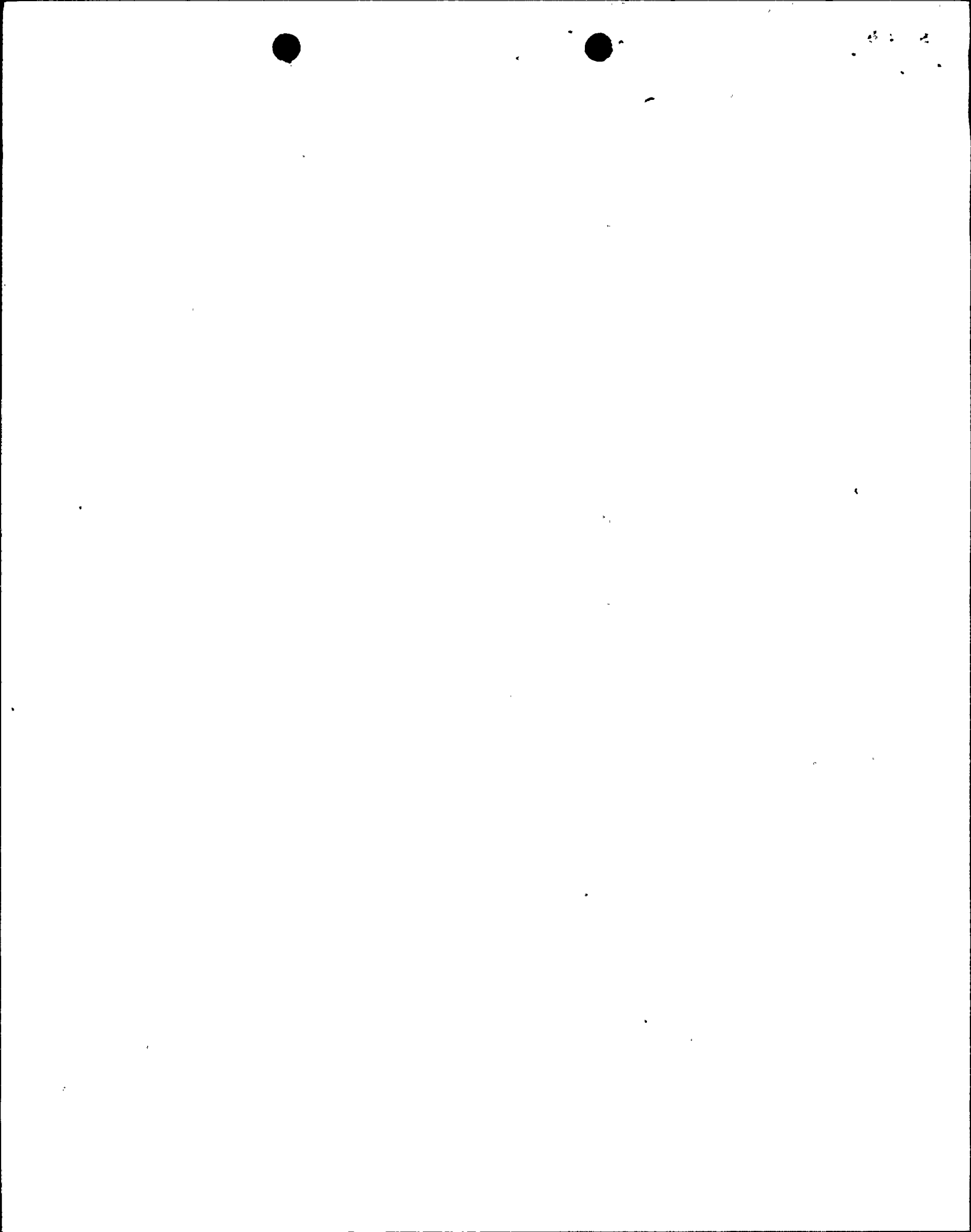
ITEM	DESCRIPTION OF COMMENTS	STATUS
<p><u>SQRT</u> <u>5/13/82</u> <u>TEAM B</u></p>		
<p>1. Pump HPSI (From 5/12/82)</p>	<ol style="list-style-type: none"> 1. Provide SANDE computer code verification. 2. Verify rigidity of pump internals. 3. Verify, for internals, that startup load is more severe than seismic. 4. Provide location of driver/pump foot taper pins. 5. Provide criteria for load distribution to determine foundation bolt stresses. 	<ol style="list-style-type: none"> 1. Open 2. Open 3. Open 4. Open 5. Open
<p>2. TE-14-3A (CCW Bldg)</p>	<ol style="list-style-type: none"> 1. Test by sine sweep. No natural frequencies were established. This information should be provided for confirmation. 2. Support of rigid conduit is too flexible. Justify design of the support. 	<ol style="list-style-type: none"> 1. Closed 2. Technical follow-up. FPL provided to NRC commitment to review support design and provide verification by June 1, 1982 and rework by August 2, 1982.
<p>3. Hot Shut-down / Control Transfer Panels</p>	<ol style="list-style-type: none"> 1. Verify that original purchase specification had spectra included. 2. Spare cable loose in cabinets. 3. For OBE test, RRS's are not included in report. 	<ol style="list-style-type: none"> 1. Closed 2. Construction memo issued to tie down loose cables Closed. 3. Closed. TRS envelopes RRS.

SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<p><u>SQRT</u> <u>5/13/82</u> <u>TEAM B - CONT.</u></p>		
<p>4. Battery Rack</p>	<ol style="list-style-type: none"> 1. Test report states that Battery LC21 has a molded rib design which created cracks during the battery test. Check that SL-2 uses an improved design of LC-21 with floating ribs. 2. One thermally aged battery cracked during rack test. Check that the battery model LC21 which cracked is not used for SL-2. 3. Compare natural frequency of single and double bay rack tests. 4. Provide qual. report for new batteries and racks. 	<ol style="list-style-type: none"> 1. Confirmatory 2. Confirmatory 3. For Info. 4. Technical follow up

SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<u>SQRT</u> <u>5/13/82</u> <u>TEAM C</u>		
1. Contact Output Isolator	No Comments.	Closed
2. Multy Nest Power Supply	No Comments.	Closed
3. Distri- bution Module (control room)	No Comments.	Closed

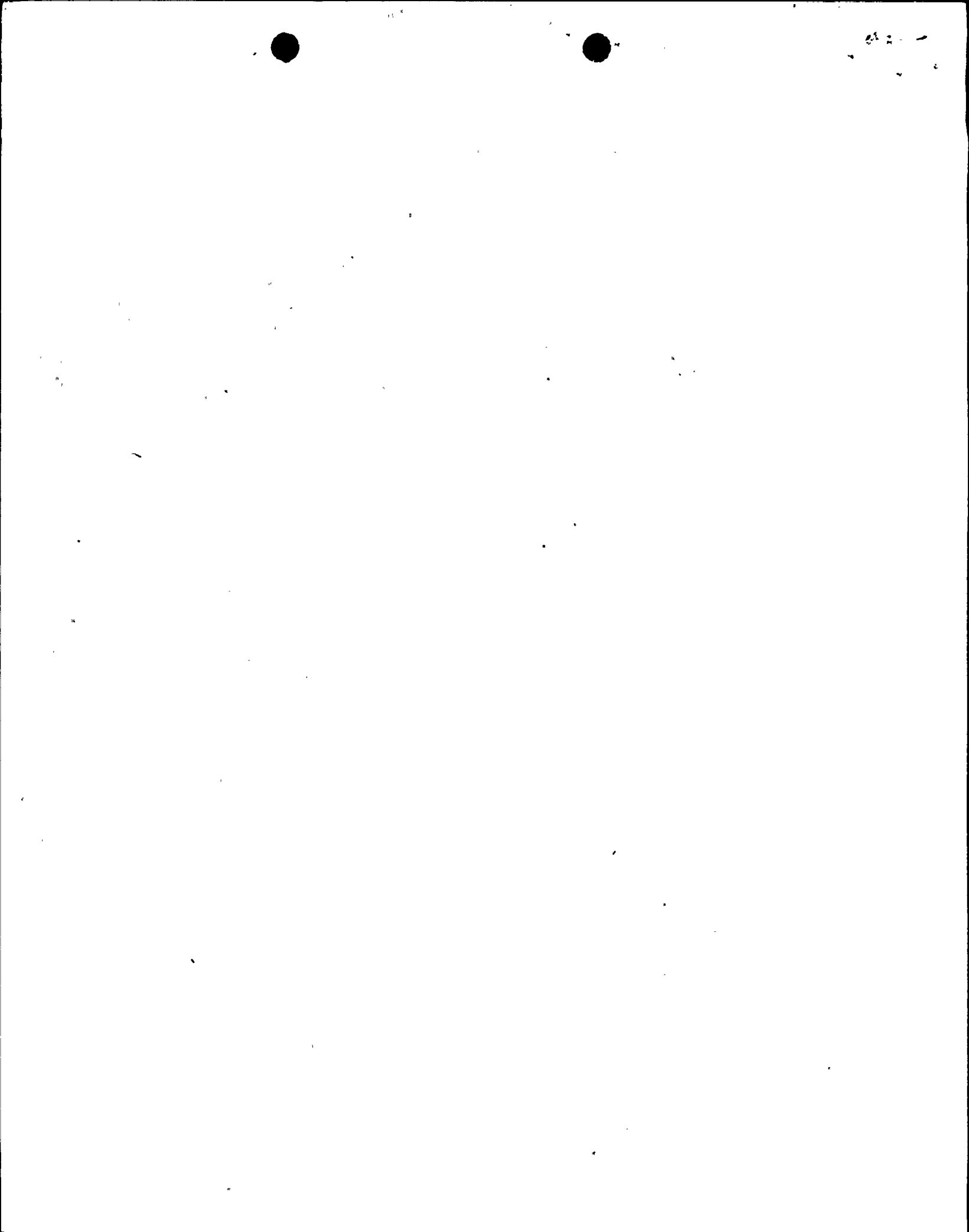


SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<u>PVORT</u> <u>5/13/82</u> <u>TEAM X</u>		
1. Valve I-V-7172	Provide confirmation that valve has been manually cycled.	Confirmatory
2. Valve I-FCV- 07-1A	No Comments.	Closed

SORT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<p><u>PVORT</u> <u>5/13/82</u> <u>TEAM Y</u></p>		
<p>1. Valve HCV-3648</p>	<p>1. Serial No. on PVORT form incorrect, correct where necessary.</p> <p>2. Junction box is contacting pipe support but is not supported on pipe support. This should be looked at for possible problems but as electrical supply is not required for the safety function this is not an open item for the Audit.</p> <p>3. Describe maintenance procedures on air supply filter. Provide certification that this valve is GEMS.</p> <p>4. Describe test or analysis to demonstrate valve closure under full delta P (Pre-op, Start-Up procedure)</p> <p>5. Valve operator utilizes stiff conduit to supply electrical cable to operator. How is it considered in analysis?</p>	<p>1. Closed</p> <p>2. No FPL action.</p> <p>3. Confirmatory</p> <p>4. Closed</p> <p>5. Closed</p>



SQRT AND PVORT AUDIT
FINDINGS AND STATUS

ITEM	DESCRIPTION OF COMMENTS	STATUS
<u>GENERIC CONCERNS</u>	<ol style="list-style-type: none">1. Verify that input G levels specified for purchasing of valves and line-mounted instruments are larger than the actual computed G values from piping stress analysis.2. Provide follow-up status of seismic qualification program<ol style="list-style-type: none">a. schedule of remaining equipmentb. <u>monthly</u> report on seismic equipment qualification.3. Provide verification that unqualified limit switches will not hamper operation of safety related valves.	<ol style="list-style-type: none">1. Confirmatory2. Follow-up3. Open

